Digital Storage Oscilloscopes
W2000 Series

W2000 Series Oscilloscopes with full VGA Color LCD. State-of-the-art Engineered. Competitive Priced.

The W2000 Series digital storage oscilloscopes feature a large 6.4" full VGA color liquid crystal display to visualize measured waveforms at a maximum display resolution of 640 x 480 dots and is the lowest priced scope in its class.

It even is available for a price of a quarter VGA scope.

Deep 16 KB memory depth per channel enables the user to analyze long recording waveforms in detail using the pan & zoom functions.

It is the world-slimmest DSO available in its class with a thickness of only 92 mm to fit a suitcase comfortable.

Digital equals Analog

With up to 200 MHz bandwidth and 1 GSa/s sampling rate per channel, no other full VGA color resolved digital storage oscilloscope offers as much bandwidth and memory depth for the price.

The W2000 Series oscilloscopes provide accurate real-time acquisition up to their full bandwidth, advanced triggers to isolate signals of interest and various automatic measurements are standard on all models.

Their Fast Fourier Transform (FFT) math function allows the user to analyze, characterize, and troubleshoot circuits by viewing freqeuncy and signal strength.

Features and Benefits

- 100 MHz and 200 MHz Bandwidth
- Real-Time Sample Rates up to 1 GSa/s per channel
- 2 or 4 Channels
- large 6.4" full VGA color LCD (640 x 480 dots)
- deep 16 KB Memory Depth per Channel
- 64 complete stored signal channels storable for reference and further analysis
- Autoset Menu with Waveform Selection
- Normal and Delayed Time Base
- Advanced Triggers, Including Pulse Width Trigger and Video Trigger
- Automatic Measurements
- Multi-language User Interface
- Waveform and Setup Memories
- FFT Standard on All Models
- RS232 and USB Interface to PC
- PC Application Software included

Applications

- Design and Debug
- Education and Training
- Manufacturing Test and Quality Control
- Service and Repair

Characteristics and Pricing
W2000 Series

Model	W2012	W2014	W2022	W2024
Display (LCD)	6.4" full VGA color display 640 x 480 dots (all models)			
Bandwidth	100 MHz	100 MHz	200 MHz	200 MHz
Channels	2	4	2	4
External Trigger Input	Present on all models			
Sample Rate On Each Channel	1 GSa/s real-time sampling per channel			
Record Length	16 K points per channel			
Vertical Resolution	8-bits			
Vertical Sensitivity	5 mV to 5 V/div			
DC Vertical Accuracy	± 3%			
Vertical Zoom	Vertically expand or compress a live or stopped waveform			
Max Input Voltage	300 VRMS CAT II			
Position Range	at 2 mV/div to 200 mV/div ± 2V; at >200 mV/div to 5 V/div ± 50 V			
BW Limit	20 MHz			
Input Coupling	AC, DC, GND			
Input Impedance	1 MΩ parallel with 15 pF			
Time Base Range	5 ns to 50 sec/div			
Time Base Accuracy	50 ppm			
Horizontal Zoom	Horizontal expand or compress a live or stopped waveform			
Net List Price in Euro, EXW	989.00	1,169.00	1,349.00	1,539.00

Acquisition Modes

- Peak Detect
  High frequency and random glitch capture. Captures as narrow as 10 ns (typical).
- Sample – Sample data only
- Average – Waveform averaged, selectable: 4, 16, 64, 128
- Single Shot
  Use the Single Shot button to capture a single triggered acquisition sequence at a time with up to 1 GSa/s per channel real-time sampling rate.

Trigger System

- Trigger Modes
  Edge (rising or falling) – Conventional level-driven trigger. Positive or negative slope on any channel. Coupling selections: AC, DC, Noise Reject, HF Reject, LF Reject.
- Video
  Trigger on External Channel, odd/even or all fields from compoisite video or broad-cast standards (NTSC, PAL, SECAM)
- Pulse Width (or Glitch)
  Trigger on a pulse width less than, greater than, equal to, or not equal to a selectable time limit ranging from 10 ns to 10 sec.

Trigger Source

- 2-channel models:
  CH1, CH2 and External Channel
- 4-channel models:
  CH1, CH2, CH3, CH4 and External Channel

Cursors

- Types – Voltage, Time

Measurements

- ΔT, $1/\Delta T$ (frequency)

Measurement System

- Automatic Waveform Measurements
  Period, Frequency, Max, Min, Peak-to-Peak, Mean, RMS

Waveform Processing

- Operations
  Add, Substract, FFT
- FFT – Hanning, Flat Top, Rectangular
- 16,000 sample points
- Sources – 2-channel models:
  CH1 - CH2, CH2 - CH1,
  CH1 + CH2
- Sources – 4-channel models:
  CH1 - CH2, CH2 - CH1,
  CH1 + CH2, CH3 - CH4,
  CH4 - CH3, CH3 + CH4
- Autoset Menu
  Single-button, automatic setup of all channels for vertical, horizontal and trigger systems.

Display Characteristics

- Full VGA Display
  Color VGA resolution (640 x 480 dots), 6.4" large, passive color LCD
- Interpolation
  Sin(x)/x
- Display Types
  Dots, vektors
- Persistence
  Off, 1 sec, 2 sec, 5 sec, infinite
- Format – YT and XY

Environmental and Safety

- Temperature
  Operating: 0°C to 50°C
  Nonoperating: -40°C to 70°C
- Humidity – Operating and Nonoperating:
  Up to 90% RH at or below 30°C
  Operating: Up to 60% RH up to 50°C
  Nonoperating: Up to 60% RH up to 55°C
- Altitude – Operating and Nonoperating:
  Up to 3,000 m (10,000 ft)
- Electromagnetic Compatibility: Meets or exceed EN55011 Class A Radiated and Conducted Emissions; FCC 47 CFR, Part 15, Subpart B, Class A
- Safety
  CSA61010-1, IEC61010-1, EN61010-1

Dimensions

- Instrument

Width	330 mm	13.0 in.
Height	166 mm	6.5 in.
Depth	92 mm	3.6 in.
Weight	2.3 kg	5 lbs.

- Package

Width	476 mm	18.75 in.
Height	267 mm	10.50 in.
Depth	286 mm	9.00 in.
Weight	2.8 kg	6 lbs

Ordering Information

- W2012, W2022, W2014 and W2024
- Shipment includes:
  Respecting Probe (one per channel),
  one probe for external trigger,
  User manual,
  Power cord,
  USB Cable and PC Software

Wittig Technologies Support Completes the Solution.

We know you depend on Wittig instrument solutions when you make and meet critical commitments. So we make and meet a support commitment you can depend on. Anytime you need support, anywhere in the world, Wittig Support gives you the lowest possible exposure to inconvenience, delay or disruption of operations.

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- Online support to request assistance, check service status or arrange for training
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All products are manufactured in ISO registered facilities.

Made in Germany

Wittig Technologies

Wittig Oscilloscope Series W2000 versus Tektronix Oscilloscope Series TDS2000

6 Top Competitive Arguments To Chose Wittig

1) Up to 50% less expensive list price than Tektronix TDS2000 Series (based on Tektronix European List Price).
   Wittig Price includes USB PC Application Software and huge signal storage for reference and further analysis

2) Large 6.4" full VGA color LCD (TDS2000 has only 1/4 VGA resolution and 5.7" size)

3) 16 KB Memory Depth per channel (TDS2000 has only 2.5 KB per channel)

4) World-Slimmest DSO in its class (92 mm deep housing to fit any suitcase comfortable)

5) 3 pcs 100 MHZ/200 MHz 1:10/1:1 switchable Signal Probes included 2-Channel Version
   5 pcs 100 MHZ/200 MHz 1:10/1:1 switchable Signal Probes included 4-Channel Version

6) 3 years warranty, includes full support

Features (per channel)	**Wittig W2012**	Tektronix TDS2012	**Wittig W2022**	Tektronix TDS2022	**Wittig W2014**	Tektronix TDS2014	**Wittig W2024**	Tektronix TDS2024
Display	**Full VGA Color**	Quarter VGA Color	**Full VGA Color**	Quarter VGA Color	**Full VGA Color**	Quarter VGA Color	**Full VGA Color**	Quarter VGA Color
Display Resolution	**640 x 480 dots**	320 x 240 dots	**640 x 480 dots**	320 x 240 dots	**640 x 480 dots**	320 x 240 dots	**640 x 480 dots**	320 x 240 dots
Display Size	**6.4"**	5.7"	**6.4"**	5.7"	**6.4"**	5.7"	**6.4"**	5.7"
Channels	**2**	2	**2**	2	**4**	4	**4**	4
Real-Time Sampling	**1 GSa/s**	1 GSa/s	**1 GSa/s**	2 GSa/s	**1 GSa/s**	1 GSa/s	**1 GSa/s**	2 GSa/s
Sampling Rate Single Shot	**1 GSa/s**	1 GSa/s	**1 GSa/s**	2 GSa/s	**1 GSa/s**	1 GSa/s	**1 GSa/s**	2 GSa/s
Analog Bandwidth	**100 MHz**	100 MHz	**200 MHz**	200 MHz	**100 MHz**	100 MHz	**200 MHz**	200 MHz
Record Length	**16 K points**	2,5 K points	**16 K points**	2,5 K points	**16 K points**	2,5 K points	**16 K points**	2,5 K points
Country of Origin	**Made in Germany**	China	**Made in Germany**	China	**Made in Germany**	China	**Made in Germany**	China
List Price (Euro)	**989.00**	1,440.00	**1,349.00**	2,160.00	**1,169.00**	1,800.00	**1,539.00**	2,520.00
Probes included	**3**	2 (1x 89.00)	**3**	2 (1x 89.00)	**5**	4 (1x 89.00)	**5**	4 (1x 89.00)
Waveform Storage	**64x 16 K**	2x 2.5 K (96x more 315.00)	**64x 16 K**	2x 2.5 K (96x more 315.00)	**64x 16 K**	4x 2.5 K (96x more 315.00)	**64x 16 K**	4x 2.5 K (96x more 315.00)
PC Software	**via USB included**	via RS232 or GPIB (135.00)	**via USB included**	via RS232 or GPIB (135.00)	**via USB included**	via RS232 or GPIB (135.00)	**via USB included**	via RS232 or GPIB (135.00)
List Price Corrected (Euro)	**989.00**	1,979.00	**1,349.00**	2,699.00	**1,169.00**	2,339.00	**1,539.00**	3,079.00
Difference to Tek	**Save 50%**	-	**Save 50%**	-	**Save 50%**	-	**Save 50%**	-

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